

**In the Specification:**

Please amend the following paragraphs of the specification as follows:

[0004] A great deal of attention has been paid to optimizing the performance of magnesium-based catalysts in an industrial setting. Usually, it is very important for the catalyst to have high activity, i.e., it must have as long of an active life as possible. Moreover, the catalyst must have very good ortho-selectivity. Many of the ortho-alkylation catalysts used in the past produced a high proportion of para-alkylated products of marginal utility.

[0007] An alkylation catalyst comprising a metal oxide wherein the catalyst, has a surface area to volume ratio of about  $950 \text{ m}^2/\text{m}^3$  to about  $4000 \text{ m}^2/\text{m}^3$  and/or an aspect ratio of about 0.7 to about 1.0.

[0037] Alkylation catalysts comprising magnesium oxide were formed into pellets having two different sizes and calcined at  $404^\circ\text{C}$  for 16 hrs under nitrogen flow at a WHSV of 0.12 g/g/hr. The pellet size of the calcined pellets used in the first example was 2.96 millimeters in diameter and 2.32 millimeters in height and the pellet size of the calcined pellet used in the second example was 4.45 millimeters in diameter and 2.95 millimeters in height. The pellets in the first example had an aspect ratio of 0.78 and a surface area to volume ratio of  $1400 \text{ m}^2/\text{m}^3$ . The pellets in the second example had an aspect ratio of 0.66 and a surface area to volume ratio of  $900 \text{ m}^2/\text{m}^3$ . The catalysts were loaded into a lab scale reactor for use in an alkylation reaction. The alkylation reaction employed a feed comprising methanol and phenol in a weight ratio of 1.4. The feed also contained 20% water by weight. The reaction temperature was about  $440^\circ\text{C}$  and the pressure was 170 kPa. The WHSV during reaction was 2.1 g/g/hr.

[0039] Results in the above tables clearly shows the increased selectivity of the pellets having a  $1400 \text{ m}^2/\text{m}^3$  surface area to volume ratio and a 0.78 aspect ratio over pellets having a  $900 \text{ m}^2/\text{m}^3$  surface area to volume ratio and a 0.66 aspect ratio, and the strongly reduced phenol and methanol usage for the production of 2,6 xylenol.

[0040] Table 42 shows the unpacked bulk density (UPBD) determined for the pellets described above.